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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,303	06/17/2006	Andreas Ritter	HM-717PCT	2509
40570	7590	12/02/2010	EXAMINER	
Lucas & Mercanti LLP 475 Park Avenue South New York, NY 10016			BATTULA, PRADEEP CHOUDARY	
			ART UNIT	PAPER NUMBER
			3725	
			MAIL DATE	DELIVERY MODE
			12/02/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/583,303

Applicant(s)

RITTER ET AL.

Examiner

PRADEEP C. BATTULA

Art Unit

3725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1, 4, 5 and 9 is/are rejected.
- 7) ☒ Claim(s) 3 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to the reply filed on October 7, 2010

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claim language of Claim 5, as written only requires that one of the options be present (please refer to the below rejection), however, Claim 9 seems to require all the elements. Furthermore, the language of the claim, as stated, seems to claim that only two rolls are present or that all rolls makeup one set and are identical. It is not completely clear from the claim language of Claim 9, and possibly of Claim 5, of what is being claimed.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa et al. (Ogawa; U.S. 6,401,506) in view of Verbickas (U.S. 6,220,071).

In regards to Claim 1, Ogawa discloses a method for the operation of the rolling stands of a tandem cold rolling mill (Figure 14, Items 24, 36, 28, 32), comprising a pair

of work rolls 28, 32 (Column 42, Lines 62 – 65 & Column 43, Lines 55 – 57, Figure 14, Items 28, 32) and a pair of backup rolls 24, 36 (Column 42, Lines 62 – 65; Figure 14, Items 24, 36) in the case of four-high rolling stands and, in addition, a pair of intermediate rolls in the case of six-high rolling stands (Column 25, Lines 66 – 67 → Column 26, Lines 1 – 5 states that five high rolling mills, six high rolling mills or more are capable of being applied to the current invention), wherein at least the work rolls and the intermediate rolls interact with axial shifting devices (Column 32, Lines 66 – 67 → Column 33, Lines 1 – 19 discuss there are thrust counter-forces calculated in the axial direction; Column 28, Lines 55 – 63 shows that there is an element to apply them), comprising the combined use of the following technologies within the multiple-stand tandem cold rolling mill: use of CVC/CVCplus technology with CVC roll contours of higher order, wherein each work roll or intermediate roll has a barrel lengthened by the amount of the shifting stroke (Column 35, Lines 21 – 35); use of pair-cross (PC) technology, wherein each work roll or intermediate roll can be swiveled parallel to the plane of the strip (Column 43, Lines 55 – 67 → Column 44, Lines 1 – 4).

Ogawa does not disclose use of strip edge-oriented shifting of the work rolls or intermediate rolls (10, 11), wherein each work roll or intermediate roll (10, 11) has a barrel which is lengthened by the amount of the shifting stroke and which has a cylindrical or cambered cross section, and the work rolls or intermediate rolls (i0, ii) are each symmetrically shifted from the neutral shift position ($S_{zw} = a$ or $saw = 0$) by the same amount symmetrically to the center of the stand (Y-Y) in the direction of their axes of rotation (X-X).

Verbickas teaches of strip edge-oriented shifting of the work rolls or intermediate rolls wherein each intermediate roll (Column 4, Lines 37 – 39 discusses that multiple intermediate rolls, beyond two, are possible just as Ogawa states) wherein each intermediate roll has a barrel which is lengthened by the amount of the shifting stroke which has a cylindrical or cambered cross section (Column 4, Lines 41 – 47 discuss the geometry and that the multiple rollers will be completely cylindrical and others being semi-cylindrical due to double tapering. Column 4, Lines 52 – 67 → Column 5, Lines 1 – 9 discusses the movement with the rest of the specification discussing the operation; Figure 3, Items 108, 110, 112, 114) and the work rolls or intermediate rolls are each symmetrically shifted from the neutral shift position by the same amount to the center of the stand in the direction of their axes of rotation (Column 4, Line 52 to the end of the specification discuss the elements bend and actuators initiate this bending. Such neutral and symmetric shifts can be possible considering the actuators pump an appropriate amount of fluid based on conditions. When the condition requires, this shifting is possible). Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to provide the amount of rollers as capable by Ogawa, as well as type and movement, as taught by Ogawa in order to provide strip edge relief (Column 3, Lines 66 – 67).

In regards to Claims 4, Ogawa modified by Verbickas does not explicitly disclose wherein optimum utilization of the combination of technologies within the multiple-stand tandem cold rolling mill is realized by optimized shifting strategies as a function of the strip width. It would have been obvious to a person having ordinary skill in the art at the

time the invention was made to find the strategies optimal to the device for rolling and considering strip width is vital in rolling such a strategy would have been considered. Furthermore, choosing a strategy for optimization only requires a choice of a method and not the most optimal option.

In regards to Claims 5, please review the rejection of Claim 1 where the elements and at least one of the choices is presented. The claim language as presented by Applicant, especially that of the "suitable choice", requires that at least one of the listed bulleted elements on the following page be present and not all.

In regards to Claim 9, Ogawa modified by Verbickas further discloses wherein the CVC/CVCplus technology, the technology of strip edge-oriented shifting, and PC technology are realized with only one geometrically identical set of rolls (The interpretation of the claim language states that only one set, which is considered by the Examiner as two rolls, are identical with the remaining 2 – 4 not being identical to one another. The rolls 24 and 36 of Ogawa, which would be unchanged with the modification by Verbickas, as being identical to one another. The collection of rolls is what makes any of the technologies possible).

Allowable Subject Matter

Claim 2 remains allowable.

Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not particular indicate the width

ranges being determined with step functions based on beginning of the setback relative to the strip.

Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art does not disclose of the particular radius requirements and the diameter reductions based on the particular equations.

Response to Arguments

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRADEEP C. BATTULA whose telephone number is (571)272-2142. The examiner can normally be reached on Mon. - Thurs. & alternating Fri. 7:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on 571-272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. C. B./
Examiner, Art Unit 3725
November 30, 2010

/Dana Ross/
Supervisory Patent Examiner, Art
Unit 3725